Precise Double-Photoionization Data for Na and K\textsuperscript{1} P.N. JURANIC, Synchrotron Radiation Center, Univ. of Wisconsin-Madison, J.C. NORDBERG\textsuperscript{2}, Gustavus Adolphus College, St. Peter, MN, R. WEHLITZ, Synchrotron Radiation Center, Univ. of Wisconsin-Madison — We have measured precise double-to-single photoionization ratios and double-photoionization cross-sections of sodium and potassium near threshold. A previously discovered scaling law \textsuperscript{3} allows us to conveniently compare the energy dependence of the double-to-single photoionization ratio by scaling the energy axis. Recently, we have also found a scaling law that enables us to predict the absolute double-to-single photoionization ratio \textsuperscript{4}. We have applied this scaling law to our new data and found excellent agreement. Previous tests of this scaling law were limited to systems where electrons were emitted from s-shells. However, in the cases of Na and K a p electrons is participating in the double-ionization process. Interestingly and in spite of the different orbital, the scaling law is still valid.

\textsuperscript{1}The SRC is supported by NSF Grant No. DMR-0084402.
\textsuperscript{2}Supported by the NSF REU Program